

July-August, 1928

Isotria verticillata on Staten Island, New York

ARTHUR HOLLICK

Twenty-five species of orchidaceous plants have been recorded from Staten Island. Most of them were relatively common, some of them were locally abundant, a generation ago. In recent years, however, several of the species have disappeared, others are on the verge of extermination, and the remainder may now be listed as either occasional or rare.

Isotria verticillata (Willd.) Raf. (= *Pogonia verticillata* (Willd.) Nutt.) was collected on Staten Island in the early '70s, according to a specimen in the local herbarium of The New York Botanical Garden, labeled "Huguenot, S. I., W. H. L[eggett], May 30, 1871"; and specimens were subsequently collected at Gifford's—about two and three quarters miles distant from Huguenot—both by me and by Dr. N. L. Britton. The Huguenot station for the species, mentioned by Leggett, was never located by us. Specimens were obtainable in the vicinity of Gifford's, however, until about 1890, and possibly later; but search of the locality in recent years failed to reveal the presence of any plants.

About a year ago Mr. H. Papke collected specimens at Annadale, an intermediate station about a mile from Huguenot and a mile and three quarters from Gifford's. I visited this locality on May 29, 1928, and, with the aid of a sketch map prepared by Mr. Papke, had no difficulty in finding the plants. They were growing in considerable number in an irregular zone, around the border of a drained and partly filled-in pond hole, in a section of recently cleared woodland through which streets have been cut and graded, in connection with a piece of real estate development. Many plants were probably destroyed by the cut and fill of two of the intersecting streets. Twenty-eight, however, were counted within an area of approximately 20×10 feet, and a number of scattered specimens were observed but not counted, beyond the obscurely delimited outer edge of the zone of distribution. No attempt was made to ascertain

the full distributional extent or limits. The plants are, apparently, doomed to extermination in the near future, not only by reason of the destruction wrought in their natural environment, but also because further artificial development of the locality is inevitable, and it is hopeless to expect that the native vegetation will receive any consideration.

Through the courtesy and skill of Mr. H. C. Hartmann excellent photographs were secured of a group of the plants in mass, and also of certain individual plants, as may be seen from the accompanying plates.

NEW YORK BOTANICAL GARDEN.

Explanation of Plates

Plate A

A group of nine plants of *Isotria verticillata* at Annadale, Staten Island, N. Y.

Plate B

Individual plants at the same locality

Figure 1. A flowerless and a flowering plant—the latter showing the flower in profile.

Figure 2. A plant showing front view of the flower.

Photographs by Mr. H. C. Hartmann.

NOTE. Since writing the above I again visited the locality, on June 10, and found a large section of the woodland destroyed by a brush fire. The fire had, fortunately, stopped when it had eaten its way to about the middle of the *Isotria* zone. Had it gone twenty feet further every plant would have been exterminated.—A. H.

Flower Structures of Dicotyledons

ALFRED GÜNDERSEN

The semi-diagrammatic representations opposite are intended to indicate in a condensed form varied floral characters; *Amentiferae* are omitted.

Probable lines of evolution of the characters shown may be briefly summarized.

CARPELS AND SEEDS

from separate to partly united, to wholly united;